WRD/MKG/P.R. 6
8 February 1960
ORIGINAL : ENGLISH

Committee for Coordination of Investigations
of the Lower Mekong Basin

Office of the Executive Agent

TO: Dr. Boonrod Binson, Chairman and
Member for Thailand

Mr. Oukeo Souvannavong
Member for Laos

H.E. Sonn-Voeun-Sai
Member for Cambodia

Mr. Pham-Minh-Duong
Member for Viet-Nam

FROM: C. Hart Schaaf
Executive Agent

SUBJECT: Progress Report No.6, for 1/31 January 1960

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1. Seventh Session

The Seventh Session of the Committee was held 6/11 January in Bangkok, under the chairmanship of Dr. Boonrod Binson. The proceedings of the session are set forth in the session Report (E/CN.11/WRD/MKG/R.23). The full narrative report of the Committee's work is contained in the Reports of Committee Sessions and in the Progress Reports of the Executive Agent; and insofar as is editorially possible, material appearing in one is for the sake of brevity omitted from the other.

2. Position at 31 January 1960

Annex 1 to this Progress Report presents a one-page tabular statement of the over-all project position at 31 January 1960.

3. Personnel

As of the end of January, some 300 persons, including more than 100 overseas experts and technicians, were at work on the Mekong Project. The overseas personnel included 60 persons with the Canadian programme, 19 with the Japanese programme, and 13 with the American programme. The total was, of course, a temporary peak, inasmuch as the Canadians and Japanese anticipate that their work in the field will be finished within a few months.

4. Australian Aid under Colombo Plan

(a) Mr. I.P. Sargeant, Engineer in Charge of Development of the Snowy Mountains Authority, and Mr. D.G. Moye, Head of the Engineering Geology Branch of the Authority, arrived in Bangkok Thursday 7 January; participated in a portion of the Seventh Session of the Committee; engaged in briefing conversations with Thai Government authorities and representatives of the United Nations and other donor programmes; spent 13/21 January in Vientiane/Pa Mong where they conducted a preliminary geological investigation of the Pa Mong stretch of the river; and had numerous meetings with Laotian Government representatives, including the Laotian member of the Mekong Committee, Mr. Oukeo Souvannavong. From January 22 until 29 January, they visited Cambodia for the examination of possible dam sites at Sambor and elsewhere and met with representatives of the Cambodian Government, including the Cambodian Member of the Mekong Committee, Mr. Sonn Voeunsai.

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(b) As had been earlier planned, Messrs. Sargeant and Moye were accompanied in their investigation by officials of the countries concerned (at Pa Mong these included for part of the period Mr. Oukeo Souvannavong and Mr. Boonrod Binson, and throughout the visit, Mr. Viravong Souvannavong, Director of Mines, Government of Laos; and Mr. Prapath Prammani, Geologist of the National Energy Authority of Thailand. In Cambodia, the government officials for part of the period, Mr. Sonn Voeunsai, Cambodian Member of the Committee, and during the entire period Mr. Chut Chhuk and Mr. Seng-Kuon-Neang of the Department of Public Works); by a representative of the French Aid Programme, Mr. E. Saurin, Geologist of the French Mission for Economic and Technical Assistance in Saigon; representatives of the Japanese Aid Programme (Mr. Y. Kubota, leader of the Japanese Mekong Tributaries Investigation Team; Mr. C. Oda, Economic Adviser to the Japanese Team, and Mr. M. Sakaita, Geologist of the Japanese Team); representatives of the U.S. Aid Programme (in Laos, Mr. R.W. Revell, Resident Manager in Bangkok of the Harza Engineering Co. International, and Mr. B.A. McKiernan, Engineer in Charge of the Harza office in Vientiane; and in Cambodia, by Mr. R. Anderson, Chief Hydraulic Engineer of Harza Bangkok office, and Mr. J.N. Fells, Engineer in Charge in the Phnom Penh office of Harza); by Mr. Fred Jones, Geologist of the United Nations Bureau of Technical Assistance Operations, assigned in Thailand (present during the Pa Mong portion of the work); Mr. Rashid Ibrahim, Deputy Executive Secretary of ECAFE (during the Laos period of the trip); by Mr. J. Morgan (during the Pa Mong portion of the trip) and Mr. Kanok Phanich (during the Cambodian and Southern Laotian portion of the trip), representatives of the ECAFE Bureau of Flood Control and Water Resources; Mr. Paul Bourrieres, Member of the Mekong Committee's Advisory Board; Mr. E.J. Lamache, Administrative Assistant in the Mekong Office; and the Executive Agent. The work of the Australian team, while it will not in itself constitute actual selections of damsites, will nevertheless play a very important part in the process of selection; it thus was felt, by Australian spokesman in November 1959, as well as by all others concerned, that it would be useful if Messrs. Sargeant and Moye could be accompanied by a group of persons as indicated, thus broadening the basis of judgement. Messrs. Sargeant and Moye, and the party accompanying them, were provided excellent facilities for their work by the Governments of the countries which they visited.

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(c) Other donor programmes also extended helpful co-operation; this included, in addition to the personnel listed above, the alteration by Canada of its flying priorities in order to have low level damsite photography of the Pa Mong and Sambor reaches of the river ready for use during the Australian reconnaissance, and use of one of the Canadian planes for aerial reconnaissance at the Sambor site; and assistance from the U.S. aid programme in the form of two boats in Vientiane and two in Cambodia, plus a USOM aircraft in Cambodia for aerial survey. Hydrographic cross-sections of the river area were made by representatives of the American aid programme at sites requested by Mr. Sargeant and Mr. Moye.

(d) In the Pa Mong reach of the river, some 25/35 kms. upstream of Vientiane, Messrs. Sargeant and Moye felt that there are a number of satisfactory damsites. Their tentative view, subject to further discussion in Australia, is that some dozen Australian technical personnel be sent back to the area early in the autumn, with a camp to be set up in October, and work to begin about 1 November. In this work they would hope to be assisted by a Laotian and a Thai engineering geologist, and by two Laotian and two Thai driller technician-trainees; the Governments of Laos and Thailand have agreed to make the personnel available, with their salaries being paid by Laos and Thailand as part of the local contribution to the project. Messrs. Sargeant and Moye felt that this team of about 18 people (12 Australians, 3 Laotians, and 3 Thais) should plan to work through two dry-seasons and one wet season, i.e. for about 18 months from 1 November 1960 until something like 1 May 1962. The work, they feel, will fall into two very distinct categories; and, in order to avoid interruption in the work, or the necessity to send the 12 Australians back to Australia for a period and have then later return, which would be a heavy and needless cost, it will be necessary, in the view of Messrs. Sargeant and Moye, to have other work simultaneously progressing. Messrs. Sargeant and Moye feel that the first phase of the work, lasting about 4 months until about 1 March 1961, should be devoted by the team to geological examination of the Pa Mong reach of the river, including possible sites both upstream and downstream of the Pla-Buk Pool. They would hope that the Canadians, in addition to relevant surveying and photography, could by or shortly after 1 November 1960 have completed mapping; and that by 1 November the American aid programme could have made a hydrographic survey

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of some 14 cross-sections of the river during high water. And, by not later than 1 March 1961, Messrs. Sargeant and Moye hope that the World Meteorological Organization, working through the office of the Executive Agent, and with technical help from WMO headquarters, and by drawing fully upon local resources, including personnel and historic data, can have prepared an estimate of maximum probable flood, which would determine the spillway length and the runoff which is to be stored or detained in the reservoir. This would mean that the Committee could, by about 1 March 1961, make a firm decision as to the actual axis along which the dam would eventually be constructed, subject to change only if the site were subsequently found by boring to be unfavourable. The Australian/Laotian/Thai team would then, during the second phase of its work (i.e. the 14 months extending until about 1 May 1962) complete all necessary geological investigation and boring of this particular site. The important point in this schedule would be selection of the actual axis of the damsite by about 1 March 1961, thereby avoiding delay in the commencement of the second-phase geological work at that time. The Canadian and U.S. Spokesmen felt that they could accomplish their parts of this programme by the times desired; and Mr. Paul Bourrieres, of the Mekong Committee's Advisory Board, and Mr. R. Berthelot, WMO Hydrometeorologist in the Office of the Executive Agent, felt that the estimate of maximum probable flood could be prepared by the target date of 1 March 1962, provided a second Hydrologist could be retained in the Office of the Executive Agent; it was hoped that WMO would agree with this; and at the end of the month the Executive Agent was preparing several alternative proposals whereby the second Hydrologist might be financed.

(e) Messrs. Sargeant and Moye and the party accompanying them examined the Sambor reach of the river from 23 January to 29 January. During this period, it was suggested to them, notably by Mr. Y. Kubota, Leader of the Japanese reconnaissance team and by Mr. Paul Bourrieres of the Committee's Advisory Board, that, as they were in the area, they would also do well to look briefly, at the Strung Treng reach of the river upstream of Sambor; and at the Khone Falls, in Laos at the Cambodian border. Messrs. Sargeant and Moye did so, including aerial inspection and general inspection. Messrs. Sargeant and Moye felt that a preliminary geological investigation of these three sites (analogous to the work proposed for the four months 1 November 1960/1 March 1961 at the several possible sites in the Pa Mong reach) would be easier to carry out than

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in the Pa Mong reach, because the rock is much more exposed. And they feel that work after such a preliminary examination should, as at Pa Mong, then be concentrated at whatever the Committee chooses as the final site. They realised, as did all of the party, that first priority was accorded Pa Mong, the Sambor-Stung Treng reach of the river, and the Tonle Sap, second priority to the Khone, and third priority to the Khemarat at the four-country meeting of May 1957 (ECAFE/WRD/1); they nevertheless felt that the sites present such interesting but different possibilities that they (Messrs. Sargeant and Moye) should recommend to the Committee that a further comparison, also with reference to costs and benefits in addition to technical considerations be made of these three sites so that the Committee might, on the basis of more information that is now available to it, assess the relative desirability of the three sites. Messrs. Sargeant and Moye hoped that such a comparison of the three sites could be carried out by about 1 April 1961, together with collection of other relevant data, including estimation of maximum probable flood. This would enable the Committee to select a site then; and would mean, as at Pa Mong, that the more intensive geological work could then be carried forward by the Australian team with little or no interruption. It was thought that the ECAFE Bureau of Flood Control would be well qualified to make this further study; the Executive Agent undertook to place this question before ECAFE; and, if ECAFE were able to reply affirmatively, then to ask the Committee if they would like this study to be undertaken, with a subsequent reopening by the Committee of the question of priorities as between Sambor, Stung Treng, and Khone.

5. Canadian Aid under Colombo Plan

(a) The Canadian aid programme progressed satisfactorily during January. As of 17 January, the Canadian team had completed 6,600 lineal kilometres of aerial photography, 586 kilometres of horizontal control, 567 lineal kilometers of third order accuracy levelling, 460 lineal kilometres of photographic control, and 474 lineal kilometres of first order accuracy levelling.

(b) The Canadian team assisted the Australian programme by preparing low level damsite photography of the Pa Mong and Sambor reaches of the river and by providing a plane for aerial reconnaissance of Pa Mong reach.

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(c) The Canadian team also agreed to carry out supplementary aerial photography in the Nam Ngum basin as requested by the leader of the Japanese reconnaissance team; the actual mapping, based upon the photographs, was, however, to be undertaken in Japan.

6. French Aid

(a) Equipment. During January Harza requested, and the Executive Agent ordered against the French 10% reserve, two Halometers designed to measure salt content of the Basaac and the Mekong River, together with various spare parts for equipment previously supplied.

(b) Soil survey in Pa Mong area in Laos and Thailand. It was anticipated that the French team would arrive for this work early in February.

(c) Fisheries and Sedimentation Research in Great Lake (Tonle Sap). The French authorities considered the suggestions put forward by the Committee at its seventh session (E/CN.11/WRD/MKG/R.23, para 29) concerning the survey to be undertaken by France, and word was awaited from Paris as to the commencement of the study.

(d) Hydrologic and engineering surveys for development of My Phouc area in the Mekong Delta.

At the end of the month the proposed programme of France was awaited.

7. Indian Aid

During the month, Mr. R. Berthelot, WMO Hydrometeorologist in the Office of the Executive Agent, prepared a detailed programme for the installation of 88 of the Indian Rain Gauges in Laos, including the catchment area of the proposed Pa Mong dam, and the Nam Ngum basin; it was hoped that this programme could be adopted by the Laotian authorities during February or at the latest March, and that the gages would be delivered by India by then, so that at least half of this number of rain gauges could be installed in Laos prior to the coming rainy season.

8. Iranian Aid

Iranian authorities indicated that they planned to submit a distribution proposal for the Iranian gift of petroleum, oil, and lubricants, at the sixteenth session of ECAFE in March.

9. Japanese Aid

(a) During January the Japanese team of some 19 experts, including engineers, agriculturists and geologists, commenced the second phase reconnaissance of a number of the more promising tributaries, including the Nam Ngum in Laos and the Upper Se San in Viet-Nam, in the development of which two tributaries the U.N. Special Fund tributaries allocation is also to be used.

(b) The Japanese team leader, Mr. Y. Kubota; Mr. C. Oda, Economist; and Mr. M. Sakaita, Geologist, also accompanied the Australian geological reconnaissance team in their preliminary geological investigation.

10. New Zealand Aid under Colombo Plan

(a) 50-foot Survey Vessel. Agreed specifications for this vessel were completed during January, and at the end of the month construction tenders were being considered.

(b) Four 24-foot Jet Launches. At the end of the month word was received that the engines for these boats were due to arrive in Hong Kong, with the engineer who will be in charge of installation, early in February, hopefully meaning that delivery in Bangkok could take place early in March.

11. United Kingdom Aid under Colombo Plan.

(a) 50-foot Launch. The United Kingdom is contributing a 50-foot launch identical with that being presented by New Zealand, and at the end of the month was thus, with New Zealand, considering construction tenders.

(b) Equipment. The United Kingdom confirmed that some £10,000 worth of hydrologic and meteorologic equipment has already been ordered, and that delivery may be expected from 3 to 6 months.

12. United States Aid

(a) At its seventh session the Committee requested the engineering members of the Advisory Board and the Executive Agent or the WMO Hydrometeorologist on his staff to endeavour to meet in advance of future Committee sessions with representatives of the American aid and other programmes to consider some of the more complex engineering problems. Without waiting for the next meeting of the Committee, Mr. Paul Bourrieres and Mr. Kanwar Sain of the Advisory Board,

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together with the Executive Agent and the WMO Hydrometeorologist on his staff, met for half a day on 12 January, the day following the Seventh Session, with American representatives including the resident representative in Bangkok of the Harza Engineering Co. International and other Harza staff, for a detailed review of the type suggested by the Committee. This meeting reviewed various aspects of the work on levelling, and made an item by item examination of the Harza proposal concerning the selection, installation, and maintenance of stream gages. The meeting noted that under the Harza contract, the analyses to be carried out by Harza concern only new data to be collected, although Harza is collecting and tabulating historic data; and that this historic data will be of great importance. The meeting hoped that the work of analyses can be carried out by the WMO personnel in the Office of the Executive Agent with as much assistance as possible from Harza. The meeting noted that the work will in any event be handicapped by many gaps in the data.

(b) Other work carried out by Harza during the month is separately reported in the Harza Progress Report for January 1960. Highlights of the work are given in the following paragraphs:

(c) Mr. R.W. Revell, the Resident Manager; and Mr. B.A. McKiernan, the Engineer in Charge of the Harza Office in Vientiane, accompanied the Australian reconnaissance team at Pa Mong; and the Harza Chief Hydraulic Engineer, Mr. R.D. Anderson, the Engineer in Charge of the Harza Office in Phnom Penh, and Mr. J.N. Fells, accompanied the Australian reconnaissance team in the work at the Sambor area. Three U.S. aid boats and an additional outboard motor were loaned for the Australian work, and a U.S. plane was made available for the aerial reconnaissance in the Sambor area.

(d) A building was leased for the Mukdaharn field office, and is to be ready for occupancy in the near future.

(e) Definite sites for installation of permanent river gages were selected in January for the following sites:

Mekong River at Luang Prabang
Mekong River at Ban Pha Tang
Mekong River at Vientiane

/Mekong

Mekong River at Kratie
Mekong River at Kompong Cham

Nam Khan at Ban Mout
Nam Ngum at Tha Ngon

(f) Aerial reconnaissance was made of the lower reaches of the Nam Ou, Nam Suong and Nam Ca Dinh and tentative gage sites chosen for further investigation after the tributary levelling is completed.

(g) A total of 35 river discharge measurements were made at 15 stations.

(h) Permanent markers for discharge measurements were installed at Luang Prabang. Cross section levels were run at a possible cable-way site on the Nam Khan near the gage site. A temporary staff gage was installed on the Nam Ngum at Tha Ngon and cross section levels run on the right bank at the site for the bubble gage. Daily gage readings are now being obtained. Range markers were installed for a low-water measuring section on the Mekong River about nine kilometers downstream from Pakse and for a section on the Se Done near the village of Souvanna Khili. Temporary staff gages were installed on the Mekong River at Mukdahan and Thakek for low-water gage reading; existing gages had been adequate for current readings prior to the low stages. A staff gage and temporary discharge measuring range were installed on the Mekong River at Mythnan (near Vinhlong, in Viet-Nam); the river at this point, and also the Bassac at Chaudoc, now reverse their flow daily due to tidal action, and studies are being made to try to devise a procedure suitable for determining mean daily discharge under such conditions.

(i) Twenty two bubble gages and twenty two water stage recorders are now enroute from the factory. The underwater parts for the bubble gages (tubing and orifices) were shipped in advance so that there need be no delay in installation of gages. These parts have arrived.

(j) Six steel instrument shelters (gage houses) were completed and shipped to regional offices. Six additional shelters are practically completed.

(k) Revolution counters for the depth indicators arrived. The 24 depth indicators, which were designed and fabricated in Bangkok, were completed and shipped to the regional offices.

(l) One of the three recently purchased 5 KVA generators was installed

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at the Vientiane office. Another is enroute to Luang Prabang and the third has not yet been delivered.

(m) The steering system and engine controls were altered experimentally on one of the 24-foot outboard boats being kept in reserve in Bangkok. This was done to improve the operational control of the boats. The alterations were successful and will be incorporated in the other boats when the required parts arrive. The changes are inexpensive and reduce the weight of each boat by about 20 kg.

(n) Distribution to the regional offices of the vehicles delivered in December was completed in January. Additional fathometers were distributed as were such minor items as anchors, binoculars, cameras, etc.

13. U.N. and FAO.

The United Nations, as executing agency for the Special Fund tributaries project, and FAO as possible sub-contractor, indicated at the end of January that Mr. C.V. Narasimhan and Mr. A. de Vajda would attend the Eighth Session (Special) of the Committee in February, which would deal with considerations affecting the Plan of Operations of the Special Fund tributaries project.

14. ILO

At the end of the month word was received that Mr. P.H. Casselman, ILO Manpower Survey Expert, would arrive to commence his assignment for the Committee during February.

15. WHO

At the end of the month the Executive Agent received a further note from the WHO Regional Director in New Delhi concerning the problem of schistosomiasis (bilharziasis) in the Mekong Basin.

16. WMO

(a) Some of the activities of the WMO Hydrometeorologist, Mr. R. Berthelot are reported above in paras 4(d), 7, and 12(a).

(b) The WMO Hydrologist, Mr. R. Mandin, continued to work during January at the task of checking and demonstrating French hydrologic equipment. Mr. Mandin's short-term assignment was due to end at the end of February.

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(c) For several months Mr. Berthelot has been urging the desirability of extension in the Office of Executive Agent of the post of the second WMO Hydrologist; and has hoped that if this post were approved, it could be filled by extending the assignment of Mr. Mandin. During the course of the Australian geological investigation, the critical need for this second post became evident, in terms of the necessity for computation early in 1961 of the estimated maximum probable flood at the Pa Mong site, and to carry out work of the same type lower on the river, and on the tributaries (see Paras 4(d) and (e) above). At the end of January, it was hoped that this post could be extended; and the Executive Agent was preparing a budget suggestion, looking towards the possibility of finance from (a) the TAB contingency fund, or (b) WMO, or (c) funds within the Special Fund tributaries allocation.

17. IAEA

At the end of January word was awaited from IAEA as to the date when the agency planned to send its Isotope Mission to the Mekong area.

18. U.N. Special Fund

(a) Tributaries Project. The Committee planned to hold its Eighth Session (Special) 16/17 February, in order to discuss, with representatives of the United Nations Headquarters and FAO, considerations affecting the preparation of Plan of Operations of the Special Fund tributaries project.

(b) Navigation Project. The Executive Agent planned to prepare for the consideration of the Committee, with the assistance of the transport and Communications Division of ECAFE, a revised application to the Special Fund for assistance in the improvement of navigation.

(c) Basic Agreement. At the end of the month, the Committee awaited word from the Special Fund as to the Committee's suggestion that the Fund consider the possibility of establishing a separate Basic Agreement with the Committee, in addition to the four basic agreements which the Fund expected to have with the four riparian countries.

19. Date and Place of the Eighth Session (Special)

The Eighth Session (Special), to deal with considerations affecting the preparation of the Plan of Operations of the Special Fund tributaries development project, was scheduled to be held Tuesday and Wednesday, 16/17 February 1960.

UNITED NATIONS MEKONG DEVELOPMENT PROJECT: POSITION REPORT AT 31 JANUARY 1960

ITEM	REPORT OF UN SURVEY MISSION (WHEELER MISSION); WITH AMPLIFICATIONS	COST ESTIMATES IN WHEELER REPORT ($1,000's)	MAIN STREAM							TRIBUTARIES					BASSIN AS A WHOLE
			Stream as a whole	Pa Mong reach	Sambor & Stung Treng reach	Khone	Tonlé Sap reach	Other reaches	Delta	Battambang	Nam Ngum	Upper Nam Chee	Upper Se San	Other tributaries	
(1)	(2)	(3)	(4.1)	(4.2)	(4.3)	(4.4)	(4.5)	(4.6)	(4.7)	(5.1)	(5.2)	(5.3)	(5.4)	(5.5)	(6)
1.	Reconnaissance of major tributaries	240													
	(a) First phase		—	—	—	—	—	—	—	c,J	c,J	c,J	c,J	c,J	—
	(b) Second phase		—	—	—	—	—	—	—	c,J	c,J	c,J	c,J	c,J	—
2.	Hydrologic observation (and establishment of permanent hydrologic service)	1,620	p.IN,NZ,UK e.F,US,WMO	p.IN,NZ,UK e.F,US,WMO	p.IN,NZ,UK e.F,US,WMO	p.IN,NZ,UK e.F,US,WMO	p.IN,NZ,UK e.F,US,WMO	p.IN,NZ,UK e.F,US,WMO	p.IN,NZ,UK e.F,US,WMO	p.SF	p.SF	p.SF	p.SF	p.IN,UK e.US,WMO	p.IN,NZ,UK e.F,US,WMO
3.	Survey and mapping														
	(a) Levelling	540	e.US	e.US	e.US	e.US	e.US	e.US	e.US	r	J	r	r	r	—
	(b) Aerial mapping	1,740	e.C	e.C	e.C	e.C	e.C	e.C	—	e.C	e.C	e.C	e.C	r	—
	(c) Supplementary spot levelling (topography of irrigable areas)	970	—	r	r	r	r	r	r	p.SF	e.J	p.SF	p.SF	r	—
	(d) Detailed survey (at dam sites)	340	—	e.C	e.C	e.C	r	r	—	p.SF	e.J	p.SF	p.SF	r	—
	(i) Topographic		—	e.C	e.C	e.C	r	r	—	p.SF	e.J	p.SF	p.SF	r	—
	(ii) Hydrographic		—	e.US	r	r	r	r	—	p.SF	e.J	p.SF	p.SF	r	—
	(e) Flowage damage survey	100	—	r	r	r	r	r	—	p.SF	e.J	p.SF	p.SF	r	—
	(f) Construction material survey	140	—	r	r	r	r	r	—	p.SF	e.J	p.SF	p.SF	r	—
	(g) Geological investigation and borings (at dam sites)	710	—	p.A	d.A	d.A	r	r	—	p.SF	e.J	p.SF	p.SF	r	—
	(h) Soil survey	190	—	e.F	r	r	r	r	p.F	p.SF	p.SF	p.SF	p.SF	r	r
	(i) Hydrographic survey (main channel of main stream)	60	p.US	p.US	p.US	—	—	p.US	p.US	—	—	—	—	—	—
	(j) Engineering reconnaissance (incorporating and based upon reports on hydrology, geology, topography & soil survey)*		—	—	—	—	—	—	—	p.SF	e.J	p.SF	p.SF	—	—
4.1	Related and special studies and aid	500													
	(a) Agriculture														
	(i) General studies		—	—	—	—	—	—	—	—	—	—	—	—	c.FAO
	(ii) Design of 4 agricultural stations *		—	—	—	—	—	—	—	p.SF	e.FAO	p.SF	p.SF	—	—
	(iii) Establishment of 4 agricultural stations *		—	—	—	—	—	—	—	r	p.SF	r	r	—	—
	(b) Fisheries														
	(i) General		r	r	r	r	r	r	r	r	r	r	r	r	r
	(ii) Tonlé Sap *		—	—	—	—	p.F	—	r	—	—	—	—	—	—
	(c) Forestry		r	r	r	r	r	r	r	r	r	r	r	r	r
	(d) Detailed study of selected areas *		—	—	—	—	—	—	—	p.SF	—	p.SF	p.SF	—	—
	(e) Mineral resources		—	d.SF	r	r	r	r	r	r	r	r	r	r	r
	(f) Power market		r	r	r	r	r	r	r	p.SF	r	p.SF	p.SF	r	r
	(g) Transportation (including waterways, highways, railways and airways)		r	r	r	r	r	r	r	r	r	r	r	r	r
	(h) Navigation														
	(i) Skeleton hydrographic survey (same as 3(i) above)		p.US	p.US	p.US	p.US	p.US	p.US	p.US	—	—	—	—	—	—
	(ii) Detailed hydrographic survey		d.SF	d.SF	d.SF	d.SF	d.SF	d.SF	d.SF	—	—	—	—	—	—
	(iii) Marking of some stretches of main stream		r	r	r	r	r	r	r	—	—	—	—	—	—
	(iv) Improvement of some stretches of main stream		r	r	r	r	r	r	r	—	—	—	—	—	—
	(i) Hydraulic model of the delta *		—	—	—	—	d.UNESCO	—	d.UNESCO	—	—	—	—	—	—
	(j) General economic studies		r	r	r	r	r	r	r	r	r	r	r	r	r
	(k) Man power survey		p.ILO	p.ILO	p.ILO	p.ILO	p.ILO	p.ILO	p.ILO	p.ILO	p.ILO	p.ILO	p.ILO	p.ILO	—
	(l) Radioactive tracer hydrological and bed-load study		p.IAEA	p.IAEA	p.IAEA	p.IAEA	p.IAEA	p.IAEA	p.IAEA	—	—	—	—	—	—
4.2	Supply of petrol, lubricant and diesel oil		p.IR	p.IR	p.IR	p.IR	p.IR	p.IR	p.IR	p.IR	p.IR	p.IR	p.IR	p.IR	p.IR
5.1	Preliminary planning														
	(a) Promising reaches of the main river	900	—	r	r	r	r	—	—	—	—	—	—	—	—
	(b) (i) Other reaches of the main river	)	—	—	—	—	—	r	—	—	—	—	—	—	—
	(ii) Major tributaries	)~900	—	—	—	—	—	—	—	p.SF	p.SF	p.SF	p.SF	r	—
	(iii) Skeleton basin plan	)	r	—	—	—	—	—	—	—	—	—	—	—	r
5.2	Comprehensive Projet Reports (bringing projects to investment stage)		r	r	r	r	r	r	r	p.SF	p.SF	p.SF	p.SF	r	r
6.	Advisory service to coordination committee (by Advisory Board)	250	e.TAO	e.TAO	e.TAO	e.TAO	e.TAO	e.TAO	e.TAO	e.TAO	e.TAO	e.TAO	e.TAO	e.TAO	e.TAO
7.	Office of Executive Agent *		e.TAO ECAFE	e.TAO ECAFE	e.TAO ECAFE	e.TAO ECAFE	e.TAO ECAFE	e.TAO ECAFE	e.TAO ECAFE	e.TAO ECAFE	e.TAO ECAFE	e.TAO ECAFE	e.TAO ECAFE	e.TAO ECAFE	e.TAO ECAFE
	* Not specified in Wheeler Report TOTAL	9,200	-	-	-	-	-	-	-	-	-	-	-	-	-

SYMBOLS

A: AUSTRALIA
C: CANADA
F: FRANCE
IN: INDIA
IR: IRAN
J: JAPAN
NZ: NEW ZEALAND
UK: UNITED KINGDOM
US: UNITED STATES

TAO: UN Bureau of Technical Assistance Operations
ILO: International Labour Organisation
FAO: Food and Agriculture Organization
UNESCO: UN Educational, Scientific and Cultural Organization
WMO: World Meteorological Organization
IAEA: International Atomic Energy Agency
SF: UN Special Fund

r: Required but not yet promised or planned
d: Under discussion
p: Promised or planned
e: Work being executed
c: Completed
—: Not applicable

OUTSIDE CONTRIBUTIONS PLEDGED (APPROXIMATE) : $6,352,640

LOCAL CONTRIBUTIONS PLEDGED (APPROXIMATE) : $ 954,000

TOTAL RESOURCES (APPROXIMATE) : $7,300,000